

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
12 August 2004 (12.08.2004)

PCT

(10) International Publication Number  
**WO 2004/068880 A1**

(51) International Patent Classification<sup>7</sup>: **H04Q 7/24**

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(21) International Application Number:  
PCT/KR2004/000141

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(22) International Filing Date: 28 January 2004 (28.01.2004)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:  
10-2003-0005949 29 January 2003 (29.01.2003) KR

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(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,  
MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,  
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,  
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

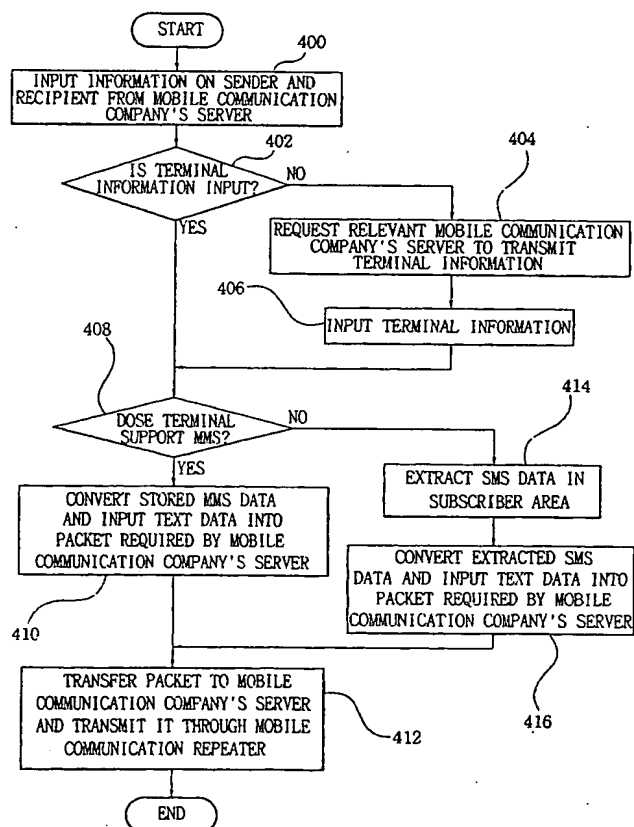
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(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

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[Continued on next page]

(54) Title: METHOD OF PROVIDING MULTIMEDIA MESSAGING SERVICE



(57) Abstract: If a recipient's mobile communication terminal supports a multimedia messaging service (MMS), previously stored MMS data are read out. If not so, only short message service (SMS) data among the MMS data are read out. The retrieved MMS or SMS data are transmitted to the recipient's mobile communication terminal via a mobile communication repeater. When text data are input through a sender's mobile communication terminal while the transmission of a message is requested by the sender's mobile communication terminal, the text data are transmitted together with the MMS or SMS data to the recipient's mobile communication terminal.

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## METHOD OF PROVIDING MULTIMEDIA MESSAGING SERVICE

### Technical field

5           The present invention relates to a method for providing a multimedia messaging service (hereinafter, referred to as "MMS"), wherein a sender using a mobile communication terminal configures in advance certain MMS data including moving pictures, combined images (also referred to as so-called "avatar"), images of business cards and the like, background music and text data, which are desired by the sender, and the  
10   configured MMS data are transmitted from the sender's mobile communication terminal to a recipient's mobile communication terminal designated by the sender.

### Background Art

          With the development of information and communication technologies, changes in  
15   living patterns, and high economic growth, the pattern of communication culture is rapidly changed. In a technetronic society, a mobile communication system capable of providing a communication service at basements, in the air, on the sea and even at mountains regardless of time and place according to consumers' needs for information transfer at high speed becomes one of important communication media indispensable to daily life.

20           In the mobile communication system, mobile communication terminals can support a short messaging service (hereinafter, referred to as "SMS") and thus transmit given text data with a size of 80 bytes or less to one another. Recently, there has been developed and used MMS that is a more upgraded service overcoming the capacity limitation of SMS, wherein a great deal of information can be transmitted at one time, and it is possible to  
25   transmit various kinds of data including not only text data but also combined images, images of business cards and the like, moving pictures, background music and the like.

          In a conventional method for providing MMS through transmission of MMS data using mobile communication terminals, a sender connects his/her mobile communication

terminal, the text data are transmitted together with MMS data previously configured by the sender to a recipient's mobile communication terminal.

A further object of the present invention is to provide a method for providing MMS, wherein MMS data previously configured by a sender are transmitted to a recipient's mobile communication terminal whenever the sender requests the transmission of a message while inputting a phone number of the recipient's terminal through a sender's mobile communication terminal.

A still further object of the present invention is to provide a method for providing MMS, wherein MMS data can be transmitted to a recipient's mobile communication terminal regardless of whether a sender's mobile communication terminal supports MMS.

A still further object of the present invention is to provide a method for providing MMS, wherein it is determined whether a recipient's mobile communication terminal supports MMS, and MMS data configured by a sender are transmitted to the recipient's terminal if the recipient's terminal supports MMS, or only SMS data extracted from the MMS data configured by the sender are transmitted to the recipient's terminal if the recipient's terminal supports MMS.

In a method for providing MMS according to the present invention for achieving the objects, a personal terminal of a subscriber is connected with a MMS server to configure MMS data and store the configured MMS data in a relevant subscriber area of a database. If a message is requested to be transmitted from a sender's mobile communication terminal to a recipient's mobile communication terminal, the MMS server reads out data previously stored in the subscriber area and transfers the data to a mobile communication repeater via a mobile communication company's server to allow the data to be transmitted to a recipient's mobile communication terminal.

As for the storage of the MMS data, if the personal terminal connects with the MMS server and requests a selection of MMS data, a list of MMS data stored in a MMS data area of the database is displayed so that MMS data can be selected. If certain MMS data are selected through the personal terminal, the selected MMS data are displayed and it is determined whether the selected MMS data will be configured as

### Brief Description of Drawings

FIG. 1 is a block diagram showing the configuration of a MMS system to which a method for providing MMS according to the present invention is applied.

FIG. 2 is a flowchart illustrating an operation for configuring MMS data through a personal terminal by a subscriber in the method for providing MMS according to the present invention.

FIG. 3 is a flowchart illustrating an operation for configuring MMS data through connection with an ARS system by a subscriber in the method for providing MMS according to the present invention.

FIG. 4 is a flowchart illustrating an operation for transmitting MMS data to a recipient's mobile communication terminal in the method for providing MMS according to the present invention.

### Best Mode for Carrying out the Invention

Hereinafter, a method for providing MMS according to the present invention will be described in detail with reference to the accompanying drawings.

FIG. 1 is a block diagram showing the configuration of a MMS system to which a method for providing MMS according to the present invention is applied. Here, reference numeral 100 designates the Internet that is a data communication network based on Transmission Control Protocol/Internet Protocol (TCP/IP), reference numeral 110 is a MMS server, and reference numeral 120 is a database connected to the MMS server 110. The database 120 comprises a MMS data area 121 for storing a plurality of pieces of MMS data, and a subscriber area 123 for storing MMS data configured by a subscriber to the MMS server 110.

Reference numeral 130 designates an ARS system connected with the MMS server 110. When a mobile communication terminal (not shown) connects with the ARS system 130, the ARS system 130 performs voice guidance on MMS data stored in the MMS data area 121 of the database 120 and notifies the MMS server 110 of MMS data selected by the mobile communication terminal so that the MMS data can be stored in the subscriber area 123 of the database 120.

storing MMS data selected by the relevant subscriber in the database 120.

When the subscriber authentication process is completed, the MMS server 110 determines in step 206 whether the subscriber's personal terminal 104 requests direct input of MMS data or in step 208 whether it requests a selection of MMS data stored in  
5 the MMS data area of the database 120.

If it is determined in step 206 that the personal terminal 140 requests the direct input of MMS data, the MMS server 110 receives MMS data inputted from the personal terminal 140 in step 210. In step 212, the MMS server 110 determines whether the input of the MMS data has been completed. If it is determined that the input of the  
10 MMS data has not been completed, the MMS data are continuously received in step 210.

If it is determined in step 212 that the input of the MMS data has been completed, the MMS server 110 transmits the received MMS data to the database 120 in step 214 so that they can be stored in a relevant subscriber area 123.

If the person terminal 140 requests a selection of MMS data in step 208, the  
15 MMS server 110 transmits a list of MMS data stored in the MMS data area 121 of the database 120 to the personal terminal 140 to display the list in step 216. If certain MMS data are selected from the displayed list through the personal terminal 140 in step 218, the MMS server 110 reads out the selected MMS data from the MMS data area 121 of the database 120 and transmits the read MMS data to the personal terminal 140 so that  
20 the MMS data can be displayed and confirmed in step 220. Then, the MMS server 110 determines in step 222 whether the MMS data are configured in the personal terminal 140.

If it is determined in step 222 that the MMS data are not configured in the personal terminal 140, the procedure returns to step 216 so that other MMS data can be  
25 selected and confirmed.

If it is determined in step 222 that the MMS data are configured in the personal terminal 140, the MMS server 110 receives given text data, which will be transmitted together with the MMS data, from the personal terminal 140 in step 224. If the input of the text data is completed in step 226, the MMS server 110 stores the configured MMS  
30 data and the inputted text data in the relevant subscriber area 123 of the database 120 in

system 130 can transmit all of background music, images and moving pictures among MMS data to the mobile communication terminal of the subscriber so that the subscriber can confirm and configure all of them.

When MMS data are completely configured in such a state, the ARS system 130  
5 transfers subscriber information and MMS data configured by the subscriber to the MMS server 110 in step 308. Then, the MMS server 110 inputs the configured MMS data into the database 120 to store them in the relevant subscriber area 123.

FIG. 4 is a flowchart illustrating an operation for transmitting MMS data configured by a subscriber to a recipient in the method for providing MMS according to  
10 the present invention. As illustrated in the figure, if a sender inputs a given phone number of a recipient's mobile communication terminal through a sender's mobile communication terminal and requests transmission of messages (MMS data) configured by himself/herself, or inputs and transmits certain text data, the mobile communication company's server 160 connected with the mobile communication repeater 150 confirms,  
15 based on a phone number of the sender, whether the sender is a subscriber to the MMS server 110. If it is confirmed that the sender is a subscriber, the server 160 inputs information on the sender and the recipient into the MMS server 110 through the Internet 100 in step 400. Here, the information inputted into the MMS server 110 by the server 160 includes, for example, sender's phone number, recipient's phone number, certain  
20 text data input through the mobile communication terminal by the sender, information on whether the recipient's mobile communication terminal supports MMS, and the like.

Then, the MMS server 110 determines in step 402 whether the input data include information on whether the recipient's mobile communication terminal supports MMS. If it is determined that the input data do not include information on whether the  
25 recipient's mobile communication terminal supports MMS, in step 404, the MMS server 110 requests a relevant mobile communication company's server 160 to which the recipient's mobile communication terminal subscribes to transmit information on whether the recipient's mobile communication terminal supports MMS. In step 406, the MMS server receives the information on whether the recipient's mobile  
30 communication terminal supports MMS from the relevant server 160. That is, in a case

that cannot support MMS, only SMS data are extracted from the subscriber area 123 for the sender.

In subsequent step 416, the MMS server 110 converts the extracted SMS data and text data inputted by the sender through his/her mobile communication terminal into the predetermined packet required by the server 160. Then, the MMS server transfers the converted packet to the server 160 through the Internet 100 in step 412. The server 160 transfers the packet inputted from the MMS server 110 to the mobile communication repeater 150 so that the packet can be transmitted to the recipient's mobile communication terminal. At this time, if the size of the SMS data and text data exceeds the capacity of a mobile communication terminal capable of supporting SMS, i.e. 80 bytes, the SMS data and text data are split into data sets of 80 bytes to create a plurality of packets. The plurality of created packets are sequentially transmitted to the mobile communication repeater 150 that in turn transmits them to the recipient's mobile communication terminal.

According to the present invention described above, a sender that is a subscriber stores in advance certain desired MMS data in a database of a MMS server and the stored MMS data are transmitted to a recipient's mobile communication terminal. At this time, MMS data or SMS data can be transmitted according to the type of the recipient's mobile communication terminal regardless of whether a sender's mobile communication terminal supports MMS. Further, if the sender inputs text data through the sender's mobile communication terminal, the text data can be transmitted together with MMS data configured by the sender. In addition, there is an advantage in that MMS data are not necessarily configured one by one whenever MMS data are transmitted.

Although the present invention has been described and illustrated in connection with the specific preferred embodiment of the present invention, it can be readily understood by those skilled in the art that various modifications and changes can be made thereto without departing from the spirit and scope of the invention defined by the appended claims.

stored in the relevant subscriber area of the database for the sender.

2. The method as claimed in claim 1, wherein step (a) comprises the steps of:

(a-1) if the personal terminal connects with the MMS server and requests a  
5 selection of MMS data, displaying a list of MMS data stored in a MMS data area of the  
database to select MMS data;

(a-2) if certain MMS data are selected through the personal terminal in step (a-1),  
displaying the selected MMS data and determining whether the selected MMS data will  
be configured as MMS data for the subscriber;

10 (a-3) if the MMS data are not configured as MMS data for the subscriber in step  
(a-2), repeating the operation for displaying the list of MMS data to select MMS data;  
and

(a-4) if the MMS data are configured as MMS data for the subscriber in step (a-2),  
storing the configured MMS data in the relevant subscriber area of the database.

15

3. The method as claimed in claim 2, wherein step (a) further comprises the steps  
of:

(a-5) if the personal terminal connects with the MMS server and requests a  
selection of MMS data, receiving MMS data from the personal terminal; and

20 (a-6) storing the MMS data received in step (a-5) in the relevant subscriber area  
of the database.

4. The method as claimed in any one of claims 1 to 3, wherein the personal terminal  
with the Internet access function is a personal computer, a mobile communication  
25 terminal or a personal digital assistant (PDA).

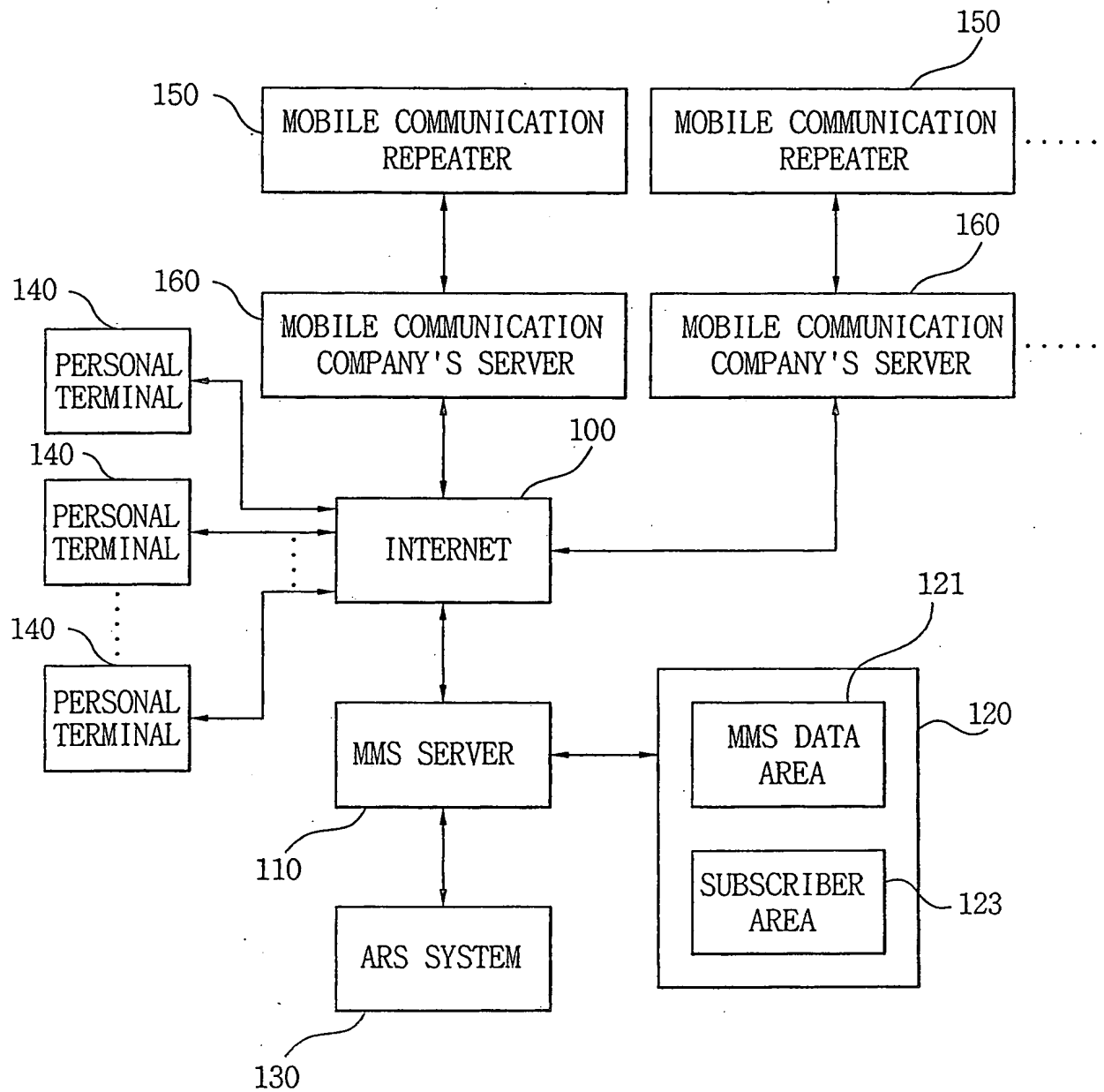
5. The method as claimed in claim 1, further comprising the step of:

(d) connecting a mobile communication terminal with an ARS system,  
configuring MMS data according to guidance of the ARS system, and storing, by the  
30 MMS sever, the configured MMS data in the relevant subscriber area of the database.



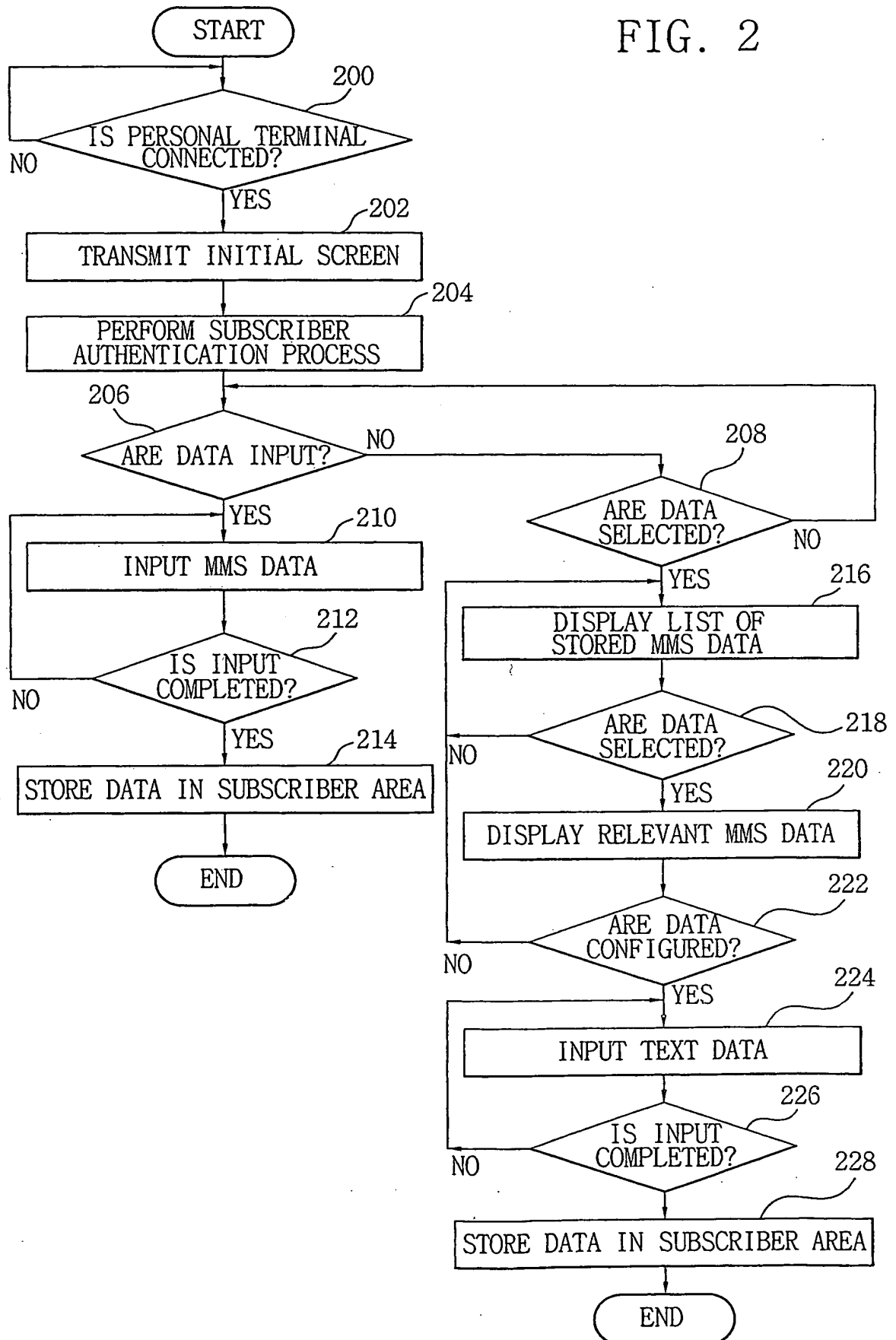
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FIG. 1



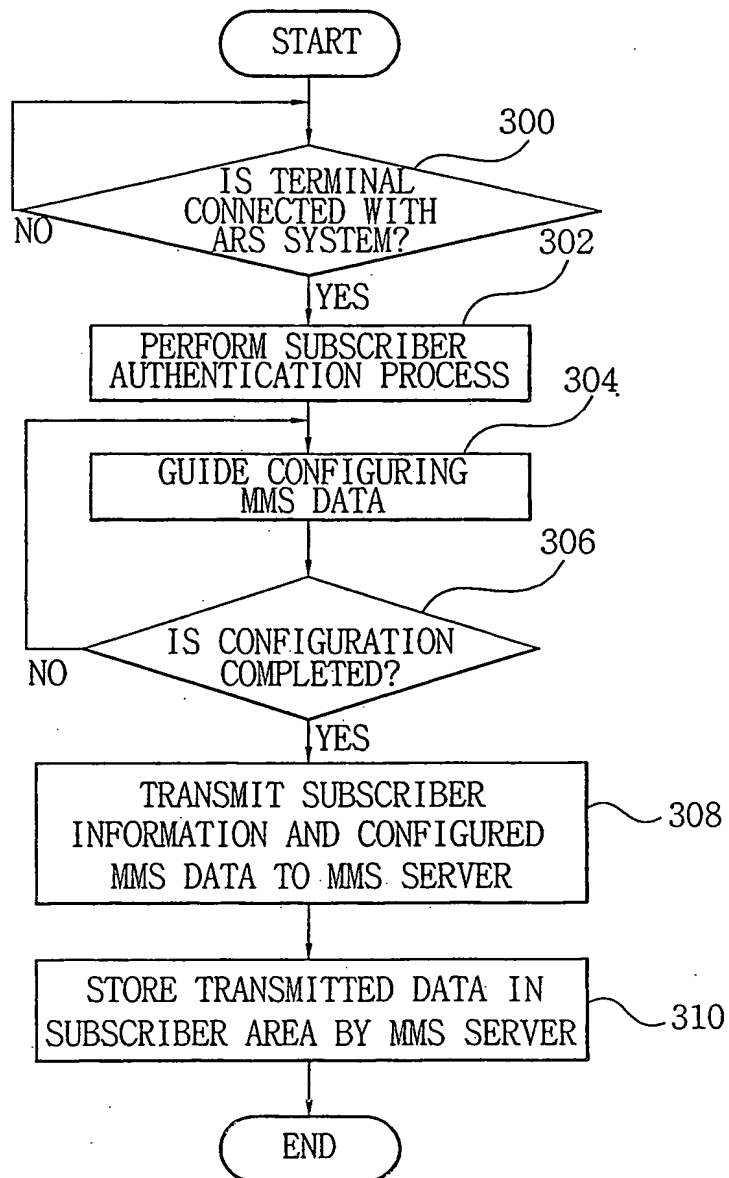
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FIG. 2



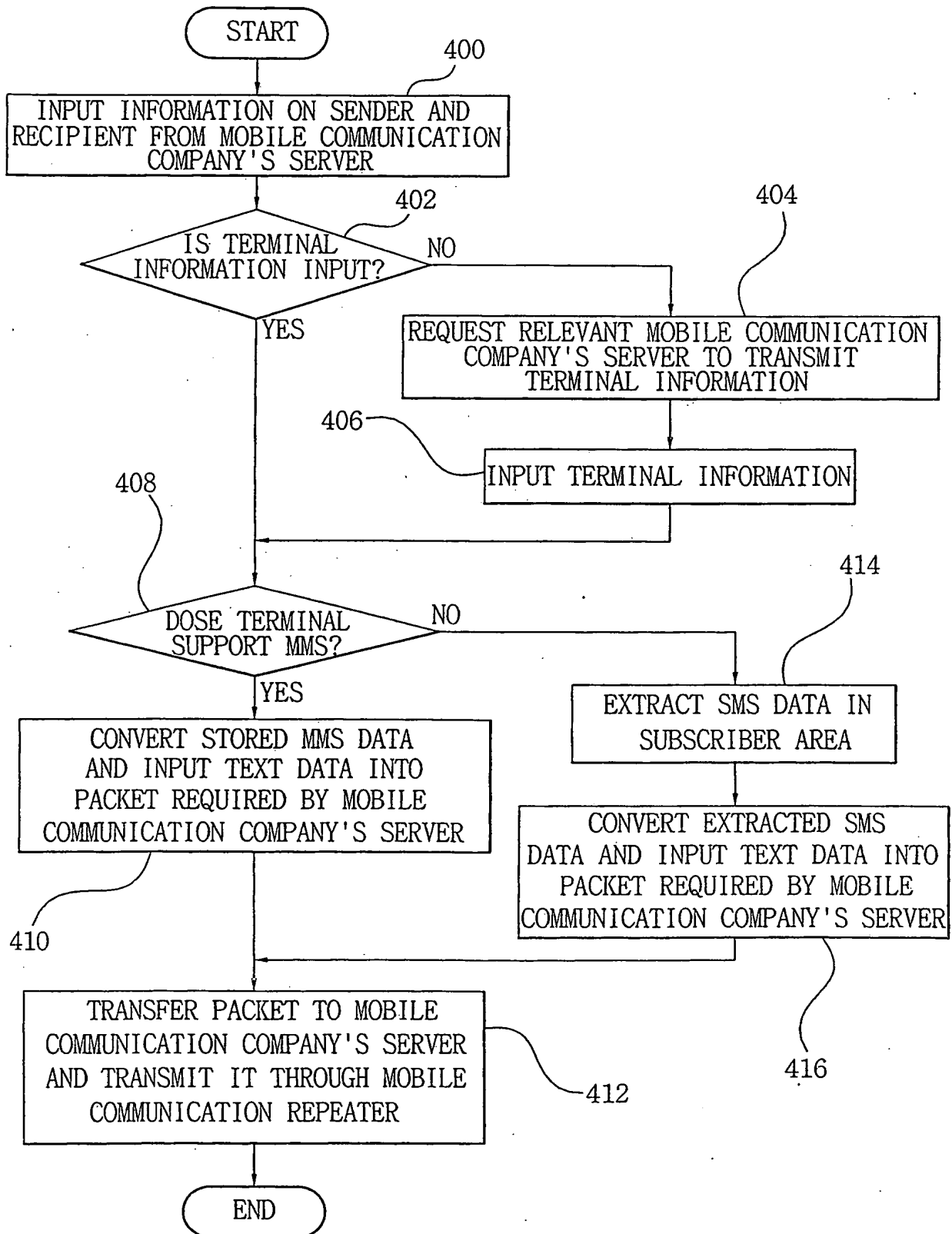
3/4

FIG. 3



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FIG. 4



# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/KR2004/000141

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7 H04Q 7/24

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 H04, G06

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002/0126708 A1 (Robert Skog) 12 Sep 2002 the whole document	1 - 5
A	US 2002/0132608 A1 (Masahito Shinohara) 19 Sep 2002 the whole document	1 - 5
A	US 2001/0040900 A1 (NOKIA) 15 Nov 2001 the whole document	1 - 5

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents:

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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

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- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

20 APRIL 2004 (20.04.2004)

Date of mailing of the international search report

07 MAY 2004 (07.05.2004)

Name and mailing address of the ISA/KR



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Facsimile No. 82-42-472-7140

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PARK, YONG MIN

Telephone No. 82-42-481-8120



# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2004/000141

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002/0126708 A1	12 Sep 2002	None	
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